

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Sophie Creux, *et al.*
Application No.: 10/560,068
Filing Date: June 5, 2006
Group Art Unit: 1794
Confirmation No.: 9849
Examiner: E. Cole
Title: Glass Fibres For Reinforcing Organic And/Or Inorganic
Materials, Composites Enclosing Said Fibres And Used
Compounds

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sirs:

This is a Pre-Appeal Brief Request For Review of the final rejections made in the Office Action mailed on November 5, 2009, and is submitted concurrently with a Notice of Appeal. Upon carefully considering the following comments and the arguments of record (all of which are incorporated herein by reference in their entirety), it is believed that the panel will agree that the Office has acted arbitrarily in making the extant rejections without the requisite substantive evidence.

Regarding the rejection of claims 1-6 and 8-13 under 35 U.S.C. §112, first paragraph for failing to comply with the written description requirement, Applicants submit that the phrase “contains no lithium oxide other than trace impurities” is supported by the application at least on page 6, lines 5-8, which recites that that “the molten glass feeding the bushings is obtained from pure batch materials or, more usually, natural batch materials (*i.e.*, those possibly containing trace impurities)”. It is respectfully submitted that these trace impurities may be derived from any number of sources and may include, for example, very small (*i.e.*, trace) amounts of lithium or lithium oxide. Indeed, it is virtually impossible to remove all trace elements from a glass composition. Applicants respectfully submit that the presence of “trace impurities”, such as the claimed trace impurities of lithium oxide, may, in fact, be present in the glass composition. In view of the above, Applicants submit that there is

adequate support in the specification for the claimed recitation of “no lithium oxide other than trace impurities” in claims 1 and 8.

Regarding the rejection of claims 1-6 and 8-13 under 35 U.S.C. §112, second paragraph, as being indefinite, Applicants submit that the phrase “trace impurities” is an art recognized phrase and is easily understood by those of skill in the art. As such, it is submitted that the phrase “trace impurities” needs no specific, recited definition within the application. Notwithstanding this implicit understanding, Applicants submit that the specification as filed teaches that “an impurity” of an element can be present in the composition in an amount from 0 to 0.6%. (See page 4, lines 21-22 of the specification). Thus, Applicants submit that the term “trace impurities” is not only understood by those of skill in the art, it is defined in the application as being an amount from 0 to 0.6%. Accordingly, Applicants respectfully submit that independent claims 1 and 8, and all claims dependent therefrom, are sufficiently definite.

In the Advisory Action dated March 16, 2010, the Office asserts that “the discussion regarding trace impurities in the specification does not refer to lithium oxide or any general component, but refers to the amount of titanium oxide”. Applicants respectfully submit that the Office’s assertion is misplaced. It is clear from the description on page 6 of the application that the “trace impurities” are described generally and are not directed to titanium oxide. Indeed, titanium dioxide is not even mentioned in lines 5-8 of page 6. Thus, it is entirely conceivable that the trace impurities present in the batch composition could include lithium or lithium oxide as claimed by Applicants, since, as discussed above, the impurities may be derived from any number of sources.

In addition, the discussion on page 4, lines 21-22 of the application, although present within a discussion of the role of titanium dioxide, clearly teaches that “an impurity” is present in the composition in an amount from 0 to 0.6%. Applicants respectfully submit that the term “impurity” is, in fact, defined on page 4 as a content of a component in the composition in an amount from 0 to 0.6%, and is not restricted to any particular component, such as titanium dioxide.

In rejecting claims 1-6 and 8-20 as being anticipated by, or in the alternative, unpatentable over U.S. Patent Publication No. 2004/0092379 to Lewis (“Lewis”), Applicants respectfully submit that the Office has incorrectly interpreted the cited reference and has therefore failed to establish a proper case of anticipation or a *prima facie* case of obviousness.

In particular, Applicants submit that Lewis does not teach or suggest a glass composition that has a CaO content from 13 to 14.9% as required by each of independent claims 1, 8, and 14. Applicants acknowledge that Lewis discloses a second generic glass composition that contains a broad range for CaO, namely from 3 to 15 wt%. (See the Table on page 3 positioned between paragraphs [0042] and [0043]). However, Lewis also teaches a first generic glass composition that contains CaO in a range from 3.76 to 10.5 wt%. (See the Table on page 2 positioned between paragraphs [0029] and [0030]). It is respectfully submitted that the range of 3.76 to 10.5 wt% is

clearly outside the claimed range of 13 to 14.9%. Looking at each of the illustrative examples set forth in Lewis, it can be seen that *each and every* exemplary embodiment contains CaO in an amount much less than 13%. For instance, Example 1 contains 8.27 wt% CaO, Example 2 contains 7.71 wt% CaO, Example 3 contains 7.70 wt% CaO, Example 4 contains 9.61 wt% CaO, Example 5 contains 8.38 wt% CaO, Example 6 contains 6.74 wt% CaO, Example 7 contains 6.53 wt% CaO, Example 8 contains 6.74 wt% CaO, Example 9 contains 6.23 wt% CaO, Example 10 contains 5.28 wt% CaO, and Examples 11 and 12 each contain 6.70 wt% CaO. In addition, each of claims 1-20 recite a glass composition that contains CaO in an amount less than 13%.

Applicants respectfully submit that to evaluate the obviousness or non-obviousness of an invention, both the prior art reference(s) and the claimed invention as a whole must be considered.¹ Looking at Lewis *as a whole*, Applicants submit that Lewis actually teaches the inclusion of CaO in an amount far less than the claimed amount of 13 to 14.9%. Indeed, in each of the disclosed “exemplary embodiments”, CaO is present in the glass composition in an amount less than or equal to 9.61 wt%. (See, e.g., Example 4 in paragraph [0033], which contains a maximum amount of 9.61 wt% CaO). Nowhere in Lewis is there any specific example (e.g. teaching) of the inclusion of CaO in an amount from 13 to 14.9% as required by each of claims 1, 8, and 14. Additionally, it is respectfully submitted that Lewis actually teaches away from the claimed amount of CaO. Applicants respectfully submit that one of skill in the art reading Lewis would be inclined to utilize CaO in an amount less than about 10 wt% CaO given that the largest amount of CaO present in the examples of Lewis is 9.61 wt%.

In addition, Applicants respectfully submit that there is no motivation for one of skill in the art to arrive at the glass reinforcing yarn of claim 1, the glass composition suitable for producing glass reinforcing yarns of claim 8, or the glass yarn of claim 14 based on the teaching of Lewis. In order to establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, and the prior art reference (or references when combined) must teach or suggest all the claim limitations.²

It is respectfully submitted that one of ordinary skill in the art would have no motivation to formulate a glass composition that contains CaO in an amount from 13 to 14.9% based on the teaching of Lewis at least because Lewis specifically and clearly teaches the inclusion of CaO in an amount far less than the claimed amount of 13 to 14.9%, as is demonstrated by each of the disclosed “exemplary embodiments”. Indeed, it is respectfully submitted that CaO is present in the glass

¹ See, e.g., *Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 7, August 2008, §2141.02 citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983) and *Schenck v. Norton Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

² See, e.g., *Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 7, August 2008, §2143 citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

compositions of Lewis in amounts less than or equal to 9.61 wt% and that Lewis teaches away from the claimed compositions that contain CaO in an amount from 13 to 14.9%. Furthermore, Applicants submit that, looking at the teaching of Lewis as a whole, it would *not* be obvious to one of skill in the art to arrive at a glass composition that includes CaO in an amount from 13 to 14.9% as claimed in claims 1, 8, and 14. Applicants respectfully submit that without some teaching or suggestion, there can be no motivation, and without motivation, there can be no *prima facie* case of obviousness.

Additionally, Applicants agree with the Examiner that Lewis does not disclose the claimed Young's Modulus. (See, e.g., page 3, lines 18-19 of the final Office Action dated November 11, 2009). Accordingly, it is respectfully submitted that claims 1, 8, and 14, and all claims dependent therefrom, are not anticipated by or obvious over Lewis for this additional reason.

In addition, Applicants respectfully submit that Lewis specifically teaches that the composition containing CaO in an amount from 3 to 15 wt% is utilized to form fiber insulation blankets. (See, e.g. paragraph [0042] and the Table positioned between paragraphs [0042] and [0043]). In contrast, the glass fibers formed by the inventive composition are reinforcing fibers, not fibers used to form insulation blankets. The fibers of the present invention can, for example, be used to form a reinforced composite product for use in aeronautical applications, for the reinforcement of helicopter blades, and to form optical cables. (See, e.g. page 6, lines 9-15; page 7, lines 10-13; and the Abstract). Applicants submit that fibers forming an insulation blanket are simply not the same as fibers used to reinforce organic and inorganic materials. Moreover, the Examples corresponding to the fibers used to form the insulation batts of Lewis did not contain an amount of CaO over 6.74%. (See Examples 8-12 on page 4). It is respectfully submitted that one of skill in the art reading Lewis would not arrive at the claimed invention because Lewis simply does not teach or suggest the claimed composition. Accordingly, Applicants submit that the fibers formed from the claimed composition are non-obvious and patentable for this additional reason.

Further, Applicants submit that Lewis does not teach or suggest the claimed amount of MgO. Applicants acknowledge that Lewis teaches a generic composition for glass fibers that includes MgO in an amount from 1.84 to 10.5 wt%. (See the Table positioned between paragraphs [0028] and [0029]). However, each and every Example of Lewis contains an amount of MgO that is less than or equal to 4.71 wt%. (See Examples 1-12 on pages 2-4). Looking at Lewis *as a whole*, Applicants submit that Lewis actually teaches the inclusion of MgO in an amount far less than the claimed amount of 6 to 12%. Indeed, nowhere in Lewis is there any specific example (e.g. teaching) of the inclusion of MgO in an amount from 6 to 12% as required by each of claims 1, 8, and 14. Additionally, it is respectfully submitted that Lewis actually teaches away from the claimed amount of MgO. Applicants respectfully submit that one of skill in the art reading Lewis would be inclined to utilize MgO in an amount less than about 5 wt% MgO, *not* from 6 to 12% as claimed, especially

given that the largest amount of MgO present in the examples of Lewis is 4.71 wt% (see Example 4 on page 2).

In view of the above, Applicants respectfully submit that one cannot reasonably interpret the teachings of Lewis to include a range of CaO or MgO that would render the claimed invention unpatentable. Accordingly, Applicants respectfully submit that Lewis does not teach or suggest the composition recited in claims 1, 8, and 14. Accordingly, it is submitted that a *prima facie* case of obviousness has not been established.

In response to the provisional obviousness-type double patenting rejection of claims 1-6 and 8-20 over co-pending application USSN 11/722,039 to Lecomte ("Lecomte"), Applicants respectfully submit that this rejection is premature as the copending application has yet to be fully examined and the pending claims have not yet been allowed. In this regard, Applicants respectfully request that this rejection be held in abeyance until the indication of allowable subject matter.

In summary, Applicants firmly believe that all pending claims are patentably distinguishable over the prior art and should be formally allowed. Upon careful review and consideration it is believed the panel will agree and instruct the Office to issue a Notice of Allowance. Any fees required in connection with this document may be debited to Deposit Account 50-0568.

Respectfully submitted,

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